



# THE CHANGING ROLE OF FIRE IN KENTUCKY'S FORESTS

## Seminar Synthesis

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## History of Fire in Kentucky

Fire has played a crucial role in the forests of eastern Kentucky for around 10,000 years. Over that time, people have been responsible for the vast majority of ignitions; lightning fires are relatively rare events. Humans have remained the chief cause of fire in Kentucky for millennia, but motivations behind forest burning have changed dramatically over time. This section presents a history of fire, focusing on the changing reasons and objectives for burning in the forests of Kentucky.

- As recently as 13,000 years ago, the forests of Eastern Kentucky were uninhabited by humans. During this time, forest fires were an infrequent event.
- From 10,000 years ago to 3,000 years ago, fires were used by Native Americans primarily to drive game animals. Native American populations were low during this time and fire was of minor importance in Kentucky's forests.
- Beginning roughly 3,000 years ago, Native American populations began to increase in the forests of eastern Kentucky. These early peoples used fire to clear land for gardens, create food for game animals, and to make travel easier by controlling brush in the understory. Fire was widely used as a land management tool. During this time, the forest was almost completely dominated by fire-tolerant tree species, such as oak, chestnut, and pine.

- By around 1800, European settlers had totally displaced native peoples, but the role of fire in the landscape had changed little. Early Euro-Americans used fire to clear land for agriculture, to drive game, and to promote forage for cattle.
- In the late 1800s and early 1900s, most of the forestland in eastern Kentucky was cut for lumber. Extremely hot fires were often associated with harvesting as unmerchantable debris was often burned.
- In response to the increased frequency of dangerous and destructive fires in the early 1900s, the U.S. Forest Service adopted a successful policy of fire suppression. This policy changed how the public perceived fire. Fire was no longer viewed as a management tool, but a threat to timber quality and public safety.
- Today, arson and escaped debris fires account for the vast majority of wildfire in Kentucky. Contrary to the historic use of fire as a management tool, fire today primarily results from carelessness or is motivated by entertainment or revenge.

***Over the long history of fire in Kentucky, the motivation behind burning the forest has shifted. For the vast majority of the time fire has been present in Kentucky it has been used as a land management tool. In recent times, however, fire has become an avenue for expression of anger, a source of amusement, or a result of negligence where no management objective is intended.***

## Current State of Fire in Kentucky

Today, fires that burn Kentucky's forest landscapes are caused by intentional arson, the accidental spread of debris fires, or by controlled, prescribed fires. The intensity, extent, and duration of arson and accidental fires are unpredictable. In contrast, ignition of prescribed fires follows rigid restrictions regarding weather and burning conditions to insure that these burns are safely maintained within pre-designated areas.

***Currently, most people view arson and accidental fires as detrimental and damaging to Kentucky's forests; at the same time, many see prescribed burning as***

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## ***beneficial to the health of the land. How can fire play both positive and negative roles in Kentucky's forests?***

Any fire, arson, accidental or prescribed, can pose risks to human health, loss of life, personal property, or natural resources. Motivated by these concerns, active fire suppression has altered the species composition, health, and economic viability of Kentucky's forests for nearly a century. Research shows that fire can serve as a beneficial and efficient tool for restoring, conserving, and utilizing forest ecosystems. The following benefits may justify careful use of prescribed fire to meet both ecological and social needs:

- Reduce fuel loads to decrease the potential of catastrophic and destructive wildfires
- Curtail incidence of disease and insect damages to forest and timber
- Increase reproduction, growth, and quality of desired forest species by reducing competition
- Improve or create wildlife habitats
- Restore historic ecosystems and landscapes
- Control invasive, non-native, and undesirable plants
- Increase or maintain native plant and animal species diversity
- Enhance scientific knowledge, public awareness, and education of fire's effects on the land.

In spite of the multiple reasons for returning managed fires to Kentucky's landscape, the public's preoccupation with arson burning, and the risks of smoke damage and escaped fire present obstacles to the use of prescribed burning.

## **Future of Fire in Kentucky's Forests: A Community Decision**

As with both historic and current burning in Kentucky's forests, future fire management activities will be the end result of formal or informal societal decisions. Present-

day concern about the prevalence of arson fire combined with a growing awareness of the juxtaposed negative and positive roles of fire in Kentucky forests justifies an expanded dialogue on the role of fire in Kentucky's future forests. ***A community-based approach encourages broad participation of public and private stakeholder groups and land management agencies, and the formation of decision-making partnerships.*** Such a strategy has the advantages of:

- Drawing from local knowledge, experience, and interests
- Increasing public awareness, and
- Forming collaborative partnerships between diverse stakeholder groups.

This approach opens up a dialogue between people who might not normally interact. It brings together multiple sources of knowledge (i.e., scientific, historical, cultural) and differing viewpoints to create opportunities for sharing information. These relationships also produce an atmosphere of collaborative problem solving and build an avenue for cooperation in projects and management operations. Perhaps most importantly, this cooperative approach to land management revitalizes the link between human communities and forest ecosystems. In Kentucky, community-based approaches are part of fire management activities in The Nature Conservancy's Fire Program and the Firewise Council of McCreary County.

The Nature Conservancy's (TNC) interaction with other agencies and the public is an example of community-based fire management. They work often with governmental agencies such as the United States Forest Service (USFS) and the Kentucky Division of Forestry (KDF). The Nature Conservancy has a Fire Learning Network for "sharing best practices and lessons learned" with its partners. TNC involves the community by sending out promotional mass mailings early in the fire season to make them aware of prescribed fire on Conservancy land, and meets with adjacent property owners in the prescribed fire planning process. They tap into local knowledge of ecosystems by preferring local individuals to work as project managers. TNC's goal of restoring and maintaining "functional landscapes" includes the use of fire. However, an essential part of the "functional landscape" is the people of the community and their link to the land.

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The McCreary County Firewise Council brings together representatives from volunteer fire departments, the County Judge Executive, Chamber of Commerce, KDF, the local water district, USFS, the National Park Service, search & rescue teams, and interested individuals. Dialogue between these groups evolved into the following shared community priorities:

- To work on a county-wide risk assessment
- To educate the public on wildfire potential, prevention, and protection, and
- To reduce fire hazard by mechanical and prescribed fire methods.

In addition to activities aimed at meeting the three initial objectives, the community dialogue has generated unexpected successes. Most notably, as a result of the FireWise education campaign, there has been a reduced number of accidental and arson fires in McCreary County. Successful networking and improved relationships between the various agencies and members of the private sector has also resulted in more productive fire and land management. This initiative has resulted in a vision-centered, cooperative, decision-making body of managers and community stakeholders while renewing interest and dialogue regarding the community's vision for the future of its forestland.

Potentially, the most valuable outcome of Kentucky's community-based fire management activities is the realization that a healthy, proactive community atmosphere can lead to a healthy forest ecosystem which then returns ecological, economic, and aesthetic values to the community. ***Healthy ecosystems and healthy communities rely on one another for strength, health and value.***

## In Conclusion

Public land management in the U.S. is under the power of several separate agencies. The management theories and operation techniques of these agencies are based on a scientific understanding of the land, and decisions are commonly made with little public input at all. This has caused the separation of people from the land. A rich heritage once flourished around people's regard for the land they lived on and near. Land management agencies were established to protect land for future use and appreciation. Instead, agencies have tended to alienate people from the land by removing them from the decision making process. Reconnecting this link between people and the landscape is one benefit of an integrated approach to land management.